



State of Rhode Island and Providence Plantations  
**D partm nt of Environm ntal Manag m nt**  
**Office of Waste Management**  
235 Promenade Street  
Providence, RI 02908

March 14, 1997

James Shaffer, Remedial Project Manager  
U.S. Department of the Navy  
Northern Division  
Naval Facilities Engineering Command  
10 Industrial Highway  
Code 1823-Mail Stop 82  
Lester, PA 19113-2090

RE: Derecktor Shipyard Site Assessment Screening Evaluation Report, Naval Education and Training Center, Newport, Rhode Island

The Office has received the Site Assessment Screening Evaluation Report for the Derecktor Shipyard Site. As of this writing, this Office has not received the requested photocopies of the notebooks, logs, photographs and video tapes from the field portion of the investigation. It is assumed that these materials will be submitted prior to the submission of the draft final document.

Attached are specific comments generated as a result of this review. A copy of these comment in disk format may be sent to the Navy's contractor at your request. If the Navy has any questions concerning the above, please contact this Office at (401) 277-2797.

Sincerely,

Paul Kulpa, Project Manager  
Division of Site Remediation

cc: Warren S. Angell, DEM DSR  
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**Comments on Draft  
Site Assessment Screening Evaluation Report  
Derecktor Shipyard, NETC**

**1. General Comment**

The report is organized such that each section deals with a particular aspect of the investigation for all of the areas of the site. That is, one section deals with sumps for the entire site, the next deals with drainage, etc. This layout does provide the reviewer with an overall picture of conditions at the site. However, this format is not as well suited for examining individual portions of the site, ie individual buildings or areas. Therefore, an additional section should be added to the report which compiles all of the information for an individual area or building from the different investigations conducted at the site. The following information should be included in this section of the report; historic information, all of the findings and specific recommendations of the PA, the results of any removal actions conducted prior to the SASE, the findings from the sump, drywells, drainage system, test pitting, soil borings, monitoring wells, etc. The State recommends that this section follow the format used in the Preliminary Assessment.

**2. General Comment**

The report should include individual maps for each area of concern or building which delineated all test pits, monitoring wells, surface soil samples, borings, structures of concern (UST, sumps, ASTs drains) areas of concern, (surface staining, location of sand blast grit, former location of hazardous waste, etc). Additional maps should be provided which incorporate the pertinent analytical results, (total VOCs, SVOCs, PCBs, TPH, appropriate metals for the various media, (surface subsurface soils groundwater, sludges, etc). These maps should also incorporate pertinent field observations, such as staining and highlight exceedance of appropriate regulations, MCLs, soil standards, risk assessment values, etc.

**3. General Comment**

The report should include a detailed discussion of the history of the site. This discussion should include information from aerial photographs, historic plans, interviews, etc. for each area of concern or building. The State recommends that the format for the individual structures in the PA be expanded upon in this report.

**4. General Comment**

This Office is aware that the remedial investigation was photodocumented. Pertinent photographs should be included in this report. These should include, photographs of sumps and catch basins before and after the removal of sludges or other debris, photographs of any staining or other visible signs of contamination, such as the paint discharge drains beneath Building 42, photographs showing the location of pertinent objects, such as the underground vaults adjacent to Building 42, etc, representative photographs of equipment boxes or other structures, appropriate photographs of test pits and so forth. A map should be provided which delineates the location of these photographs. In addition, pertinent photographs showing areas of concern from the Preliminary Assessment should also be included in the report.

**5. General Comment**

The report includes a quantitative Human Health and Ecological Risk Assessment which do not reflect the proposals in the original Work Plan. In the future, in order to minimize changes to the document, the Office recommends that the Navy submit a modified Work Plan prior to submitting the draft report.

**6. General Comment**

Please be advised that all UIC structures must either be permitted or properly closed. Permits are obtained through the UIC Section of the DEM. The requirements of the permit depend upon the use of the structure. Closure is through the UIC Section and Waste Management Section of DEM. Closure requirements are delineated below.

All UIC structures must be properly closed to eliminate the potential for the structure to act as a conduit for groundwater contamination in the future. The following steps must be followed during the closure of UICs, attached please find "UIC Facility Closure Guidelines":

- a. all liquid and/or sludge remaining in piping, drains, tanks, drywells, etc. must be removed;
- b. all drains, piping and appurtenances associated with the UIC disposal system must be sealed;
- c. after confirmatory samples have demonstrated the absence of contaminants within the disposal system, the system must be cleaned fill and capped to grade (confirmatory analytical results must be submitted to the Department prior to backfilling);

**7. General Comment**

The human health and ecological risk assessment assumes that current conditions are maintained at the site, surface coverage, etc. This is not necessarily the case and the report should note this or be modified accordingly.

**8. Section 1-1, Projection Objectives;  
Page 1-2, Paragraph 2.**

The discussion in this section is limited to the four areas of concern. The report should note that Derecktor Shipyard occupies space currently used by NUWC. This section of the report should also briefly state why these areas were not included in the current investigation and state any remediations carried out at these sites. A more detailed discussion of these areas should also be included in the appropriate section of the report.

**9. Section 2.1, Activity History;  
Page 2-2, Paragraph 3.**

This section of the report includes a brief history of activities in the Coddington Cove area. The report should note whether any of the activities conducted in the area had the potential to generate waste (that is Derecktor Shipyard was known to generate a large volume of waste material, and certain materials such as sandblast grit was disposed of directly onsite).

**10. Section 2.4, Findings of the Preliminary Assessment;  
Page 2-5, Whole Section.**

As indicated in the report, the Preliminary Assessment (PA) was used to identify potential areas of concern. These areas would then be addressed in the SASE Report. The PA noted that a number of storm drains existed in the vicinity of Buildings 1,2,3 & 4. The report also notes that the drains in the vicinity of building four may have been impacted by releases from the site. The report should include a discussion of these buildings and any work performed in these areas during the SASE. Please be advised that the storm drains are potential UIC and should have been investigated as part of this SASE. This should be noted in the report.

**11. Section 2.5, Recent Activity;  
Page 2-6, Paragraph 5.**

This section of the report deals with the sand blast grit removal conducted at the site. The report should provide more detail concerning this removal action. That is analytical results from material, initial estimates concerning amount of grit at the site, actual volume of grit at the site, actual volume of grit removed and whether any grit still exists at the site. As of this writing, the Navy has not submitted the required report for the removal action which includes all of this requested information. This office recommends that this report be submitted so that its findings could be included in this report.

**12. Section 2.5, Recent Activity;  
Page 2-6, Whole Section.**

Building 42 was used as a hazardous waste storage area and as a paint facility. During the shipyards operational period hundreds of fifty five gallon drums containing waste solvents, oils, acids and other materials were located in this building. The floors of the buildings were heavily stained and or flooded. The report should include a description of this building in the individual site history section.

**13. Section 2.5, Recent Activity;  
Page 2-6, Whole Section.**

On the southeast corner of Building 234 was a hazardous waste storage area. The EPA required that soil and groundwater samples be collected in this area. The report should note that this area was used to store hazardous materials and that it was investigated under the USEPA RCRA program. Since the EPA investigation was limited to EP Tox analysis the report should note whether any remedial investigation activities, (test pits, boring etc) under the current SASE program addressed this area. Finally the location of this area should be depicted on a map.

**14. Section 2.5, Recent Activity;  
Page 2-6, Whole Section.**

On the northern corner of Building 234 there was a spill of fuel oil. The oil from the spill entered a storm drain in the area. This information should be included in the report. The report should also note whether any contamination was observed in the storm drain in which the fuel entered and whether this drain had a soft or hard bottom.

**15. Section 2.5, Recent Activity;  
Page 2-6, Whole Section.**

The northern water front area was used to store hazardous waste. The waste were stored in fifty five gallon drums and in tanks without secondary contaminant or protection from the elements. As a result there were reports of releases of hazardous material from the corroded drums. Accordingly, EPA required an investigation of this area. The report should include a detailed discussion of the north water front area and the investigation required by the EPA. In addition, since the EPA investigation was limited to EP Tox, the reports should note what samples from the SASE were taken from the areas investigated by the EPA. A map should be provided which depicts the sampling locations of the EPA and those of the SASE.

**16. Section 2.6, Recommendations of the Preliminary Assessment Report;  
Page 2-8, Paragraph 2.**

This section of the report deals with the sand blast grit found at the site. As previously discussed, the report should include all of the appropriate estimates, removal volumes and analytical results for this action. The report should note whether any grit still exist at the site. Please note that after the completion of the removal action, grit was discovered in the vicinity of the piers.

**17. Section 2.6, Recommendations of the Preliminary Assessment Report;  
Page 2-9, Paragraph 4.**

This section of the report deals with the USTs found at the site. The reports discussion is brief and makes references to UST files which were not included in this document. This section of the report needs to be expanded to include the following: discussion noting the source of information used to located the USTs, i.e. engineering plans, site walk over, Preliminary Assessment report , interviews, etc., whether any suspected USTs were not located, investigation methods which were used in an attempt to locate these "missing" USTs , i.e. test pitting, magnetometer survey, borings, etc. (the areas covered by these techniques should be included in a map, ie location of test pits, etc), a quantitative discussion of the USTs investigations, that is results of analytical testing and whether sampling was limited to petroleum related compounds or whether a full sweep of VOCs, SVOCs, PCBs etc were analyzed for, plumes associated with the USTs, and any other information concerning their investigation and remediation.

**18. Section 2.6, Recommendations of the Preliminary Assessment Report;  
Page 2-10, Paragraph 1.**

This section of the report discusses the contamination associated with Building 62. The report should note the results of the investigation of the sumps and reservoir within the building. Specifically, whether the contamination found in these areas had been remediated and whether a release had occurred.

**19. Section 2.6, Recommendations of the Preliminary Assessment Report;  
Page 2-10, Paragraph 4.**

This section of the report alludes to the ASTs found at the site. The discussion of the AST should be elaborated to include the following; a map depicting the location of each AST, the type and size of AST, the contents of the AST when it was dismantled, the presence of any staining associated with the AST, SASE sampling associated with the ASTs, and any other pertinent information.

**20. Section 2.6, Recommendations of the Preliminary Assessment Report;  
Page 2-11, Paragraph 2.**

The report notes that the Preliminary Assessment recommended remedial activities with regards to the interiors of a number of the buildings. The report states that these buildings have undergone industrial cleaning and therefore additional investigation is no longer warranted. The Preliminary Assessment also recommended that the floors of the buildings be inspected for leaks. This recommendation was based upon observations of heavy staining, spillage or flooding being observed in these areas. The SASE report should note whether the floors were inspected for cracks in order to ascertain whether a release had occurred.

**21. Section 3.1.1, Sump Inspection;  
Page 3-2, Whole Section.**

The report indicates that the sludges and other debris in the sumps, drains and other structures was removed during the remedial investigation. Analytical testing results of the sludge removed from sumps and other potential UIC structures must be submitted to determine whether the system in question acted as a source of contamination.

**22. Figure 3-1, Base Map**

This figure depicts a pipe being located south of Building 42 in between two catch basins. Please indicate which section of the report contains a discussion of this pipe.

**23. Section 3.2, Drainage Systems and Outfalls;  
Page 3-4, Whole Section.**

This section of the report discusses the measures taken to investigate the storm drains in the area. The report has not indicated whether each storm drain was tested to determine whether it was a UIC, and whether a release had occurred. The report should delineate the measures taken to determine whether a storm drain was a UIC, and note on a map which drains had undergone testing and the results of this effort.

**24. Section 3.3.1, Test Pitting Activities;  
Page 3-6, Paragraph 3.**

The report indicates that a test pit was installed north of Building 234 to investigate a potential UST. Information from the Preliminary Assessment indicates that interviews with Deree Shipyard personnel and engineering plans indicate that there was two, 10,000 gallon USTs installed by the Donatelli Construction company. The area also contained a third, 25,000 gallon UST. This information should be included in the report along with the location of the USTs and the location of the test pit.

**25. Section 3.4.3, Groundwater Monitoring Well Installation;  
Page 3-11, Whole Section.**

At a number of sites, the location of the monitoring wells will not provide the necessary information to determine the subsurface disposal systems impact to groundwater. Many of the wells appear to be side gradient to the buildings where the systems are located and borings were not advanced at these locations. Please refer to analytical testing results from S-234-4, S-42-1 and S-42-2. The report should comment on the location of the monitoring wells and note at which locations additional wells are needed.

**26. Section 3.5.3, On-Shore Ecological Setting;  
Page 3-14, Whole Section.**

This section of the report deals with the ecological survey conducted at the site. Based upon the information presented it appears that the survey was limited to an onsite walkover and a literature search. During the Ecological Advisory Board Meeting it was the State's understanding that a more in depth survey was conducted at the site. For clarification, please provide a more detailed description of the ecological survey. This information should be submitted to the State prior to the issue of the draft final document as it will influence decisions concerning the ecological risk assessment methodology, specifically, whether the listed species in the report should be limited to those observed during the ecological survey.

**27. Section 3.3.1, Test Pit Excavation;  
Page 3-6, Whole Section.**

Page 3-6, paragraph 4 states that the drywell was sampled as described in Section 3.2. Section 3.2 describes the investigation of the drainage systems and outfalls, this section does not contain a description of the drywell sampling.

**28. Table 3-1, Summary of the UICs and Samples Collected.**

In the summary section of the table the report should include a brief discussion of the field observations and indicate whether contaminants were detected in the samples

**29. Section 4.0, Findings of the Investigations;  
Whole Section.**

Building # 6 was deemed to be an area of potential concern due to the activities conducted in the building. Specifically hazardous chemicals were used in the building for pipe preparation work, hazardous chemicals were stored outside of the building, the loading dock and pavement in the area was heavily stained, a discharge pipe was found which led from the hazardous materials tanks in the building to a discharge point outside of the building, and there were allegations that leaking PCB transformers were stored in the area. This section of the report does not adequately address this area. Specifically, the report should discuss the



potential sources of contamination, the measures taken to investigate these source, (ie collection of samples from storm drains, surface soil sample groundwater sample, etc) and the results of this sampling effort. Note, as previously requested, this information will be in one section, (that is, surface soil, subsurface soil, drainage basin, sample, etc). The report should also note whether the drainage basins in the area had hard or soft bottoms.

**30. Section 4.0, Findings of the Investigations;  
Whole Section.**

Section three of the report notes that a number of the storm drains, sumps and other structures at the site were filled, contained sand blast grit, sludges and other debris which had to be removed. The condition of the individual structures should be noted in the report as well as any other pertinent information, presence of oil or other contaminants, etc.

**31. Section 4.0, Findings of the Investigations;  
Whole Section.**

Huts 1 & 2 were used as a maintenance facility by Derecktor Shipyard. These Huts were considered to be an area of significant concern due to there use as a maintenance facility and the presence of fifty five gallon drums, heavy oil staining, reported leaks, evidence of leaks presence of small ASTs and large 20,000 and 10,000 gallon ASTs. The Division is aware that samples were collected to address the concerns in this area. However, due to the structure of the report and the scale of the maps it is not possible to easily ascertain the specific of the investigation. Therefore, the report should be modified so as to provide the following information;

Location of 20,000 and 10,000 gallon ASTs, leakage associated with said tanks, contents of tanks, fate of tanks, analytical samples taken to determine if a release had occurred at the tanks, location of various 250 gallon waste oil/gasoline ASTs, leakage associated with tanks and analytical tests to determine if a release had occurred, location of interior and exterior manholes, staining and contamination associated with each and test to determine if a release had occurred.

**32. Section 4.0, Findings of the Investigations;  
Whole Section.**

During the Derecktor Shipyard operational period, two quonset huts were located north of Huts 1 & 2. Heavy staining was observed on the floor of these huts. The report should note the location of these huts, discuss potential historic contamination and its potential impacts, i.e. whether said contamination may have entered any storm drains, etc). The report should also note whether any remedial investigation activities were conducted as part of the SASE for these structures.

**33. Section 4.0, Findings of the Investigations;  
Whole Section.**

The Preliminary Assessment noted that the south exterior wall of Building 42 was heavily stained. The report should note whether this condition still exists. Furthermore, the report should note what efforts were taken if any to determine if the soils adjacent to the southern wall were impacted and whether any sampling was performed in this area.

**34. Section 4.0, Findings of the Investigations;  
Whole Section.**

The Preliminary Assessment notes that a six inch plastic discharge? pipe was located on the southern wall of Building 42. The function of the pipe is unknown, and it did not appear to discharge to any drain. The SASE report has not commented on the pipe. The report should indicate what remedial investigation activities, if any, were performed to determine the function of the pipe, whether a discharge had occurred from the pipe and the sampling performed to determine the nature of the discharge.

**35. Section 4.0, Findings of the Investigations;  
Whole Section.**

There are two separate reports of waste lagoons located at the northeast corner of Building 42. These lagoons apparently accepted oil waste from the shipyard. The potential existence of these lagoons was not noted in the report. The report should therefore be modified accordingly, and the potential location of the lagoons noted on a figure. The report should also note what remedial investigation activities were designed to ascertain the location of these lagoons (the location of the test pit or monitoring wells in this area may not have intercepted these lagoons). In addition, the report should clearly note that the absence of surface staining cannot be used as a criteria for the remedial investigation. This is due to the fact, that the Navy, despite agreements with the regulators not to, had placed clean fill in the area north of Building 42.

**36. Section 4.0, Findings of the Investigations;  
Whole Section.**

The Preliminary Assessment notes that a pile of slag like material was found in the south east corner of Building 234. This material was stored near three storm drains. The report should include a discussion of this material. In addition the report should note what remedial investigation activities, storm drain samples, soil sample, etc, which were taken to investigate any releases from this material.

**37. Section 4.0, Findings of the Investigations;  
Whole Section.**

The Preliminary Assessment noted that the shoreline near the southeastern corner of Building 234 was stained reddish brown, probably from rotoblast material. The report should note this and indicate whether the staining is still present. The report should also indicate what remedial investigation activities were conducted in this area.

**38. Section 4.0, Findings of the Investigations;  
Whole Section.**

The Preliminary Assessment notes that rotoblast grit and sandblast grit was found in several locations in the vicinity of Building 234. The SASE has not noted whether this material is still present at the site. The report should address this issue and note whether any samples were collected in areas of suspected concern.

**39. Section 4.0, Findings of the Investigations;  
Whole Section.**

The report notes that Building 18 was not considered an area of potential concern due to the historic use of the site. The Division is aware the building is in an area subject of erosion. The Preliminary Assessment noted that there were two 250 gallon storage tanks and several fifty five gallon drums on the site. The report should note whether these items had been removed from the buildings.

**40. Section 4.0, Findings of the Investigations;  
Whole Section.**

The report noted that samples were collected from the north waterfront area due to the potential concern from releases of hazardous materials stored in that area. The report should include a discussion of the sampling location and the areas of potential concern, such as the location of the hazardous waste AST, location of sampling required by EPA to address historic releases, etc.

**41. Section 4.0, Findings of the Investigations;  
Whole Section.**

The following locations (potential UICs) showed elevated concentrations of TPH and SVOCs: S234-4, S-42-1 and S-42-2. Please note that groundwater was not analyzed for TPH.

**42. Section 4.1.1, S42-1;  
Page 4-2, Paragraph 5.**

This section of the report includes the concentrations of the different analytes observed at this sampling location. The report should also note the concentration

of oil detected.

**43. Section 4.1.1, S42-1;  
Page 4-2, Paragraph 5.**

This section of the report indicates that the presence of gravel prohibited the collection of soil samples below a depth of six inches. It is assumed that the presence of surface contamination would have prompted the removal of the gravel in order to ascertain the depth of the gravel and whether the soil beneath the gravel was contaminated. Therefore, the report should note whether the gravel was in such a condition that it could not be penetrated with a hand spade.

**44. Section 4.1.1, S42-1;  
Page 4-2, Whole Section.**

This section of the report notes that there was a potential release from the floor drains which discharged on to the soil beneath Building 42. The report should note whether monitoring wells will be placed downgradient of the suspected release.

**45. Section 4.1.3, S42-5;  
Page 4-3, Paragraph 4.**

This section of the report discusses an underground vault. The approximate size of the vault and the location of the inlet pipes should be included in the report. The report also speculates that the vault was a domestic waste water holding tank. In this section of the document the report should note whether the domestic sanitary facilities from Building 42 drain into the vault.

**46. Section 4.1.3, S42-5;  
Page 4-3, Paragraph 4.**

The report states that the "vault was pumped out" however the bottom of the vaults could not be closely examined due to the "presence of water and soil". The report should note whether water reentered the vault after it was pumped thereby prohibiting visual inspection of the floor, or whether it was logistically impossible to remove all of the water from the chamber.

**47. Section 4.1.3, S42-5;  
Page 4-3, Paragraph 4.**

It must be determined whether any subsurface structure, including all catch basins within the storm water drain system, were designed for infiltration. The results of the investigation on the storm drain system servicing portions of building 42 showed that the system discharged into a vault with concrete side walls, however, the report does not state whether the bottom of the vault was designed to allow for infiltration.

**48. Section 4.1.3, S42-5;  
Pag 4-4, Paragraph 1.**

The report indicates that soil samples were collected from the vault. The report should indicate whether these samples were from the discussed top soil which fell in or whether they were collected from a different section of the tank.

**49. Section 4.1.3, S42-5;  
Page 4-4, Paragraph 1.**

The concentration of TPH was elevated in the samples taken from this location. This should be noted, along with the actual concentrations, in this section of the report.

**50. Section 4.1.4, Dry Well Huts 1 & 2;  
Page 4-4, Paragraph 6.**

This section of the report states that the compacted gravel bottom of the dry well did not allow for collection of soil samples. This necessitated the installation of boring down gradient from the dry well in order to determine whether a release had occurred. In order to avoid confusion, the report should note the logistic problem which prohibited boring inside of the dry well.

**51. Section 4.1.5, S234-1;  
Page 4-5, Paragraph 4.**

The report indicates that soil samples were collected to a depth of 1.5 feet. The report should note any observations made during the collection of the sample.

**52. Section 4.1.6, S234-4;  
Page 4-6, Paragraph 1.**

This section of the report discusses the concentrations of contaminants observed in the sump. Elevated levels of TPH were observed in this sample location and should be noted in this section of the report.

**53. Section 4.1.8, Equipment Boxes, Building 234;  
Page 4-7, Whole Section.**

The information provided in the report indicates that all of the equipment boxes were not tested. Please be advised that this Office does not concur with the methodology of sampling only a number of the subfloor equipment boxes. All subfloor equipment boxes must be characterized.

**54. Section 4.2, Drainage System and Outfalls;  
Page 4-7, Whole Section.**

This section of the report discusses the drainage system at Derecktor Shipyard. Due to concerns of storm related releases from the system into the bay there was a discussion of sampling pertinent outfalls during a storm event. The report should note whether this sampling effort was conducted and whether releases to the bay still occurred.

**55. Section 4.2, Drainage Systems and Outfalls;  
Page 4-7, Whole Section.**

It has not been determined whether some of the piping from sumps discharged at the ground surface underneath Building 42 or whether the discharging pipes extended to a subsurface disposal system. If such investigation is not feasible, borings and/or monitoring wells downgradient (directly between the location of the system and the shoreline) of the potential systems must be used to determine any contaminant migration.

**56. Section 4.2.1.2, Huts 1 & 2;  
Page 4-10, Whole Section.**

The PA identified a manhole in the middle of the heavily stained floor of Hut 1. This manhole and any investigations associated with it was not found in this section. The report should note the existence of this manhole and all the investigation samples, smoke testing, etc) associated with it.

**57. Section 4.2.1.2, Building 42 Exterior Drainage System;  
Page 4-9, Paragraph 2.**

This section of the report discusses the various exterior drains surrounding Building 42. The Preliminary Assessment report noted that a southern elevated exterior drain (which could not function as a drain due to its elevation) was found to contain a sludge like material. The report should note which drain in the southern portion of the building matches the description in the Preliminary Assessment. In addition, the report should describe the sludge in the drain and note whether it was tested.

**58. Section 4.2.1.2, Building 42 Exterior Drainage System;  
Page 4-9, Paragraph 2.**

Building 42 was used as the hazardous waste storage area. Accordingly, hundreds of drums of waste material was stored at and adjacent to the building. In addition there are allegations of waste being disposed of directly onto the soils in the vicinity of the building. During rain events the likely migration routes for these contaminants would have been the storm drains. Therefore, the report should include a detailed discussion of the drains. The report should discuss each individual drain with respect its location with respect to suspected areas of

release, its contents, (presence of sludges, staining, etc), whether it had a soft of competent bottom, and any and all testing performed on the drain.

**59. Section 4.2.1.2, Building 42 Interior Floor Drainage System;  
Page 4-10, Paragraph 2.**

*Smoke test applied to this vault indicated that inflow pipes were connected to the floor drains, S42-3, S42-5, and the lavatories in Building 42 (floor drains and toilets. This led to the investigators to believe that S42-5 is a collection tank.*

The above sentence requires modification in that S42-5 is referred to as a floor drain and as a vault. In addition, the report should discuss the areas served by the floor drains, i.e. whether hazardous chemicals were stored in these areas etc.

**60. Section 4.2.1.3, Building 234 Area;  
Page 4-11, Whole Section.**

This section of the report discusses the sumps and drainage system in this building. It is the State's understanding that during the remedial investigation approximately 6000 gallons of oil contaminated water was removed from a sump. The report should include a discussion of these findings, including the location of the sump, its approximate size, its function and the source of the water, i.e. seawater or rain water. In addition the report should speculate on the source of the oil.

**61. Section 4.3.2, Upgradient Off -Site Area;  
Page 4-14, Whole Section.**

This section of the report discusses the upgradient area sampling results. The report should provide additional information in the discussion of the analytical results. Specifically, the report should compare the upgradient results to those found at other upgradient locations on the site and the Rhode Island background concentrations. The requested information should also be provided in table format. Please be advised that the presence of contaminants at the upgradient locations which are not present at other upgradient locations may affect comparison performed elsewhere in the report. That is, throughout the document onsite concentrations of contaminants are compared to those observed in both upgradient sampling locations. This comparison maybe in appropriate in certain instances, for example, elimination of COPCs based upon contaminated upgradient sample results would be inappropriate.

**62. Section 4.3.3., Chemistry;  
Page 4-18, Paragraph 2.**

The report includes a discussion of the PCB samples collected at the site. The report should note which sample was collected from the transformer in the northern area identified in the Preliminary Assessment.

**63. Section 4.3.5.1, Groundwater;  
Page 4-22, Paragraph 5.**

This section of the report deals with the test pitting activities associated with a probable UST. During this investigation, contamination and piping associated with the UST was uncovered, however, the UST was not found. The report should include the engineering plans or figures which were used to determine the location of the test pits. The actual location of these pits should be overlaid on to these plans.

**64. Table 4-6, Chemical Constituents Detected in Groundwater**

Table 4-6, if correct, shows elevated concentrations of metals (reported in mg/kg?), including Arsenic, Barium, Copper, Lead and Zinc. This table also shows the presence of some of these constituents in background MW 104 in exceedance of water standards. Please discuss this observation in the text. In addition, some of these constituents are not listed as COPC. Please justify the exclusion of these chemicals.

**65. Section 6.1.1, Occurrence and Distribution of the Data and Identification of COPCS  
Page 6-2, Whole Section.**

This section of the report discusses the process for selecting chemicals of concern. The report has not indicated whether all positively detected values were included as COPC or those which met a statistical criteria. Due to the small sample size, it is assumed that all chemicals which had a positive detection were included as COPC. Please modify the report if this is not the case.

**66. Section 6.1.1, Occurrence and Distribution of the Data and Identification of COPCS  
Page 6-2, Bullet No. 1.**

This section of the report states a chemical was eliminated as a COPC if its concentrations did not exceed a threshold value which was equal to a risk level of  $1E-06$  or a HQ of 1. Multiple contaminants at a site would result in an exceedance of risk even if the individual chemicals do not exceed a risk value. The State regulations recognize this fact and require that this situation be addressed for site containing multiple contaminants which individually do not exceed a criteria. Therefore, it would be inappropriate to eliminate COPC based upon nonexceedance and the report should be modified accordingly.

**68. Section 6.1.2, Distributional Analysis for Data and Representation Concentrations;  
Page 6-3, Whole Section.**

This section of the report discusses the use of the RME and the 95% UCL and Maximum detected value. These values have been used to calculate an overall risk for the site based upon the RME. At other sites on the base a risk based upon maximum exposure is calculated in addition to a risk based upon average exposure. This procedure should be applied at this site, that is risk is based upon maximum concentration or 95% UCL value, (whichever value is higher) and the



average exposure concentration.

**69. Section 6.3.3.1, Surface Soil;  
Page 6-10, Paragraph 1.**

The report states that the fugitive dust estimates for the residential scenario are based upon the assumption that the current vegetation, paving and building would reflect current conditions. Currently, approximately 80 % of the site is paved. Typically, the percentage of paved area does not equal 80 % in residential areas. The value should therefore be changed and the exposure scenario should be modified.

**70. Section 6.3.3.2, Surface Soils;  
Page 6-10, Paragraph 3.**

This section of the report acknowledges the potential for contaminants to leach from subsurface soils into the groundwater. The report indicates that this loading was not considered due to the limited number of VOCs detected at the site. Certain metals and SVOCs are considered somewhat mobile. Therefore, the risk assessment should be expanded to include contaminant loading from surface and subsurface soils on to the groundwater.

**71. Section 6.3.3.3, Groundwater;  
Page 6-10, Last paragraph.**

This section of the report indicates that incidental ingestion of groundwater was considered in the residential scenario. Please indicate whether this incidental ingestion was associated with the use of an residential well (it is assumed that this is the case as wells are not prohibited in residential settings).

**72. Section 7.2.2, Identification of Contaminants of Potential Concern;  
Page 7-9, Whole Section.**

This section of the report discusses the use of benchmark and the selection of COPC. The report should indicate whether this comparison was carried out for the petroleum contamination found at the site. In addition, the report should note the procedure for contaminants in which no bench mark exists.

**73. Section 7.3.1, Potential Ecological Exposure Pathways and Associated Receptors;  
Page 7-31, Whole Section.**

This section of the report discuss the use of benchmarks and hazard quotients. The report should indicate a discussion of bench marks, for example whether they represent exposure to sensitive organisms etc.

**74. Section 7.3.1, Potential Ecological Exposure Pathways and Associated Receptors;  
Page 7-31, Whole Section.**

Ecological Risk Assessments may identify a sensitive or highly exposed organisms as a means of addressing risk at a site. The report should indicate why this scenario was not evaluated.

**75. Section 8.3, Risk to Receptors;  
Page 8-4, Paragraph 3.**

*These assessments were performed under the assumption that highly contaminated soils under sumps as well as any other highly contaminated soils not identified as part of this study would be removed from the site under controlled conditions prior to receptor exposure.*

The report indicates that highly contaminated soils not identified under this investigation would undergo remediation. Please indicate which unidentified soils are scheduled for remediation and the contamination associated with these soils.

**76. Section 8.3, Risk to Receptors;  
Page 8-4, Paragraph 3.**

*These assessments were performed under the assumption that highly contaminated soils under sumps as well as any other highly contaminated soils not identified as part of this study would be removed from the site under controlled conditions prior to receptor exposure.*

The above statement implies that the Navy will be remedial actions are scheduled for the above mentioned soils. Please be advised that the risk assessment will have to be modified if the intended remediation is not carried out.